

**REMARKS**

Applicants thank the Examiner for the very thorough consideration given the present application. Claims 1-2 and 4-15 are currently pending in this application. No claims have been amended. Accordingly, no new matter has been added.

In view of the remarks herein, as well as the amendments and remarks filed on March 23, 2009 and incorporated herein in their entirety, Applicants respectfully request that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

**Issues Under 35 U.S.C. 102/103**

Applicants submitted a Declaration on February 20, 2009, which rebuts the Examiner's inherency assertion and clearly demonstrates that the cured product of Momoda '038 does not exhibit a tensile strength of 20 kgf or more. In response to Applicants' arguments of February 20, 2009, however, the Examiner asserts that the data provided by Applicants does not overlap in scope with the present claims, because "only examples 10, 11, 15, 24, 25, 34 and 35 disclose the required three monomers of the present claims." Applicants respectfully disagree.

Initially, Applicants reaffirm that it has been demonstrated that none of the exemplified embodiments of Momoda '038 inherently has the feature the Examiner believes is present (i.e., the claimed tensile strength). The fact that some of the Examples of Momoda '083 are outside of the scope of the present invention is irrelevant, as Applicants have demonstrated that all Examples of Momoda '038 which fall within the scope of the present invention lack the feature the Examiner alleges is inherently present.

Moreover, Applicants submit herewith a second Declaration Under 37 C.F.R. 1.132, in which Applicants have reproduced a large number of examples, in addition to Examples 10, 11, 15, 24, 25, 34 and 35 of Momoda '038, each of which discloses the required three monomers of the present claims.

The second Declaration shows that the tensile strength of the cured product of Examples 9 and 26 of Momoda '038 is 13 kgf and 12 kgf, respectively. These values are clearly outside the presently claimed range of 20 kgf or more.

Moreover, Applicants have also conducted experiments (Runs 3 to 18) in which a large number of monomers disclosed in Momoda '038 ("various polymerizable monomers III") are used. These monomers correspond to the "other polymerizable monomers (III)" of the present invention. As evidenced by the results of the experiments, none of the cured products obtained in these experiments exhibit a tensile strength of 20 kgf or more. That is, even when the various polymerizable monomers (III) are used, if the proportion of the polyfunctional polymerizable monomer (I) is outside the range specified in claim 1 of the present application, a cured product having a tensile strength of 20 kgf or more cannot be obtained.

Applicants respectfully submit that the results of the experiments discussed in the Declaration of February 20, 2009, as well as the results of the experiments discussed in the second Declaration enclosed herein show that, when the proportion of the monomer(s) is outside the range specified in claim 1 of the present application, a cured product having a tensile strength of 20 kgf or more **cannot be obtained** (emphasis added).

Clearly, Momoda '038 fails to teach or suggest a cured product as claimed. Moreover, Applicants submit that Momoda '038 also fails to teach or suggest a curable composition which

provides a cured product having a tensile strength of 20 kgf or more.

Reconsideration and withdrawal of all outstanding rejections are respectfully requested.

**Conclusion**


All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos, Reg. No. 61,158 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.17; particularly, extension of time fees.

Dated: MAY 15 2009

Respectfully submitted,

By  #42874  
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Marc S. Weiner  
Registration No.: 32,181  
BIRCH, STEWART, KOLASCH & BIRCH, LLP  
8110 Gatehouse Road  
Suite 100 East  
P.O. Box 747  
Falls Church, Virginia 22040-0747  
(703) 205-8000  
Attorney for Applicant

Enclosure: Declaration Under 37 C.F.R. 1.132 (executed April 28, 2009)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

IN RE APPLICATION OF :  
JUNJI TAKENAKA, ET AL. :EXAMINER: John Freeman  
SERIAL NO.: 10/549,696 :  
FILED: September 19, 2005 :GROUP ART UNIT: 1794  
FOR: POLYMERIZATION CURABLE :  
COMPOSITION :

DECLARATION UNDER 37 C.F.R. 1,132

COMMISSIONER FOR PATENTS  
P.O. Box 1450  
ALEXANDRIA, VIRGINIA 22313

Sir:

I, Junji Takenaka, am one of the inventors of the present application and have measured the tensile strength of a lens obtained by reworking following Examples of EP 1130038A1.

Experiment

Run 1

0.03 Parts by weight of the chromene 1 (see, page 22 of EP 1130038A1) and 1 part by weight of t-Butylperoxy neodecanoate (perbutyl ND) as the polymerization initiator, were added to 100 parts by weight of polymerizable monomers comprising 20 parts by weight of trimethylolpropane trimethacrylate (TMPT), 35 parts by weight of 2,2-bis(methacryloxypolyethoxyphenyl) propane (BPE), 20 parts by weight of triethylene glycol dimethacrylate (3G), 10 parts by weight of stearyl methacrylate (C18MA), 9 parts by weight of glycidyl methacrylate (GMA), 5 parts by weight of  $\alpha$ -methylstyrene ( $\alpha$ MS) and 1 part by weight of  $\alpha$ -methylstyrene dimer (MSD), and were mixed to a sufficient degree. This mixture solution was poured into a mold constituted by a glass plate and a gasket of an ethylene/vinyl acetate copolymer, and substantially the whole amount of the above monomer composition was polymerized by cast polymerization. The polymerization was conducted by using an

air furnace while gradually raising the temperature from 30°C to 90°C over a period of 18 hours and maintaining the temperature at 90°C for 2 hours. After the polymerization has been finished, the polymer was removed from the glass mold.

Runs 2 to 25

Photochromic cured products were obtained in the same manner as in Run 1 but using polymerizable monomer compositions shown in the following table below.

#### Measurement of tensile strength

The cured products obtained in each of the above Runs were formed into disk-like test samples having a thickness of 2 mm and a diameter of 5 cm, two holes having a diameter of 2 mm were drilled on a line which is the diameter of each test sample with points 4 mm away from the periphery as the centers, two stainless steel rods having a diameter of 1.6 mm were inserted into the two holes and fixed to upper and lower chucks of a tensile tester while they extended through the holes, and the tensile strength of the test sample was measured by pulling at a rate of 5 mm/min. This measurement was made on 7 samples and the average value of the measurement data excluding those of two samples showing the largest and smallest measurement values was obtained.

#### Results

The obtained tensile strength values of each of the cured products were shown in the following table.

			Run	Monomer I (parts by wt)	Monomer II (parts by wt)	Monomer III	(parts by wt)	Tensile strength (Kgf)	
A	Example of EP1130038A1	Ex9	1	TMPT 20	BPE 35	3G/C18MA/GMA/ $\alpha$ MS/MSD	20/10/9/5/1	13	
			2	TMPT 20	BPE 48	4G/MAMePEG(468)/GMA/HEMA/ $\alpha$ MS/MSD	5/10/4/5/8/1	12	
			3	TMPT 20	BPE 35	4G/vinyl stearate*	20/25	14	
			4	TMPT 20	BPE 35	3PG/vinyl acetate*/GMA	20/15/10	11	
			5	TMPT 20	BPE 35	MATHF(650)*	45	rubbery, can not be drilled	
		Ex26	6	TMPT 20	BPE 35	4G/MeSMAPEG(640)*	20/25	14	
			7	TMPT 20	BPE 35	4G/BuA*	20/25	12	
			8	TMPT 20	BPE 35	C12A*	45	rubbery, can not be drilled	
			9	TMPT 30	BPE 35	4G/OleylMA*	15/20	14	
			10	TMPT 25	BPE 25	2G/LinaloollMA*/GMA/ $\alpha$ MS/MSD	25/10/10/4/1	12	
B	Various polymerizable monomer III	Low-hardness	11	TMPT 20	BPE 35	4G/PEGE(774)*/GA/MSD	25/10/8/2	12	
			12	TMPT 20	BPE 35	4G/PESGE(834)*/GMA/ $\alpha$ MS/MSD	10/15/10/8/2	11	
			13	TMPT 25	BPE 25	DQP*	50	16	
			14	TMPT 50	BPE 35	NPG*	15	9	
			15	TMPT 20	BPE 35	4G/SG*/GMA/ $\alpha$ MS/MSD	20/10/10/4/1	15	
		High-hardness	16	TMPT 20	BPE 35	2SG*/MSD	43/2	13	
			17	TMPT 20	BPE 35	3G/GMA/DVE*/MSD	20/10/13/2	14	
			18	TMPT 20	BPE 35	4G/DVBP*/MSD	23/20/2	14	
			19	TMPT 20	BPE 20	4PG/C18MA/GMA	30/15/15	10	
			20	TMM360 20	BPE 20	4PG/C18MA/GMA	30/15/15	10	
C	Example of EP1130038A1 Various polymerizable monomer I and II	Various polymerizable monomer I	21	D-TMP 20	BPE 20	4PG/C18MA/GMA	30/15/15	11	
			22	TMPT 20	BPE200 20	4PG/C18MA/GMA	30/15/15	11	
			23	TMPT 20	BPE500 20	4PG/C18MA/GMA	30/15/15	14	
			24	TMPT 20	PDBP 20	4PG/C18MA/GMA	30/15/15	12	
			25	TMPT 20	BPS 20	4PG/C18MA/GMA	30/15/15	12	
		Various polymerizable monomer II							

(Monomer I)

TMPT: trimethylolpropane trimethacrylate  
TMM360: pentaerythritol trimethacrylate/pentaerythritol tetramethacrylate=80/40  
D-TMP: ditrimethylolpropane trimethacrylate

(Monomer II)

BPE: 2,2-bis(4-methacryloxyethoxyphenyl)propane (average value of (m+n) is 2.6)  
BPE200: 2,2-bis(4-methacryloxyethoxyphenyl)propane (average value of (m+n) is 4)  
BPE500: 2,2-bis(4-methacryloxyethoxyphenyl)propane (average value of (m+n) is 10)  
PDBP: 2,2-bis(4-methacryloxyethoxyphenyl)propane (average value of (m+n) is 4)  
BPS: bis(2-methacryloxyethoxyphenyl)sulfide

(Monomer III)

2G: diethylene glycol dimethacrylate  
3G: triethylene glycol dimethacrylate  
4G: tetraethylene glycol dimethacrylate  
3PG: tripropylene glycol dimethacrylate  
4PG: tetrapropylene glycol dimethacrylate  
C18MA: stearyl methacrylate  
MAMePEG(468): polyethylene glycol methacrylate having an average molecular weight of 526

MATHF(650): polyhexamethylene glycol dimethacrylate having an average molecular weight of 650

MeSMAPEG(640): methylthio ether polyethylenethio glycol methacrylate having an average molecular weight of 640

BuA: butyl acrylate

C12A: lauryl acrylate

OleylMA: oleyl methacrylate

LinaloolMA: linalool methacrylate

PEGE(774): polyethylene glycol diglycidyl ether having an average molecular weight of 774

PESGE(834): polyethylenethio glycol thiodiglycidyl ether having an average molecular weight of 834

DCP: tricyclodecane dimethanol dimethacrylate

NPG: neopentyl glycol dimethacrylate

SGbis(2-methacryloylthioethyl)sulfide

2SGbis(2-methacryloylthioethyl)sulfide

DVB: divinyl benzene

DVBp: divinyl biphenyl

GMA: glycidyl methacrylate

GA: glycidyl acrylate

HEMA: hydroxyethyl methacrylate

$\alpha$ MS:  $\alpha$ -methylstyrene

MSD:  $\alpha$ -methylstyrene dimer

None of the cured products of Runs 1 to 25 has a tensile strength of 20 kgf or more.

The undersigned declares further that all statements made herein of his own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon.

Further declarant saith not.

Junji Takenaka  
Signature

April 28th, 2009  
Date